

A NEW SPECIES OF *DONACEUS* CRESSON (DIPTERA: EPHYDRIDAE)
FROM MALAYSIA

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Abstract.—*Donaceus azhari*, new species, is described from Perak State, Peninsular Malaysia. It is compared to its sole congener, *D. nigronotatus* Cresson.

The shore fly fauna of Malaysia is poorly known, as it is for most of the Oriental Region. Cogan and Wirth (1977) record 16 species from Peninsular Malaysia (Malaya) and only three in Sarawak and Sabah (Malaysian Borneo). The number of species in this area will most likely prove to be much greater. During November of 1986, one of us (RSZ) spent a month in Peninsular and East Malaysia. During that period several new species and material which will expand the distributional ranges of other Oriental ephydriids was discovered. This is the first report concerning the Malaysian material. Herein we describe the second species in *Donaceus*.

Genus *Donaceus* Cresson

Donaceus Cresson, 1943: 5 (type species: *Donaceus nigronotatus* Cresson, by original designation and monotypy).

Diagnosis.—Small shore flies (1.50–2.40 mm) similar to *Ilythea* Haliday and *Zeros* Cresson but distinguished by a variety of subtle features.

Head: Microtomentose, produced forward, appearing oversized for body; face flat to facial prominence then with a slight tuberculate development, with 3 large facial setae, equally spaced, uppermost at level just below facial prominence; genal bristle sub-

equal to facials; antennae normal, plumose, with 6–7 arisal hairs; proclinate and reclinate orbital setae well developed; inner and outer vertical setae well developed; ocellar setae large, situated between posterior ocelli; eyes micropubescent.

Thorax: Thoracic chaetotaxy well developed; scutum with 3 pair of dorsocentral setae (1+2), 3–6 pair of acrostichal setae, prescutellar and intra-alar setae strong; scutellum with large lateral and apical setae, lateral margins with or without black, velvety areas; notopleuron with posterior seta 2× diameter of anterior seta and 4× as far from notopleural suture; wing distinctive, with clear rounded spots in a fuscous field, vein R_{2+3} joins costa beyond middle of wing; halter yellow.

Abdomen: Densely microtomentose, ground color black; male genitalia with epandrium not fused dorsally, cerci elongate, surstyli not heavily sclerotized, variously lobed and bristled.

Distribution.—Southeast Asia (Malaysia, Thailand, Japan, Taiwan), Hawaii, Australia, and New Zealand.

Remarks.—Cresson (1943) erected the tribe Ilytheini for three closely related genera including *Ilythea* Haliday, and the new genera *Zeros* and *Donaceus*. *Donaceus* is separated from *Ilythea* and *Zeros* by a number of subtle characters the most obvious

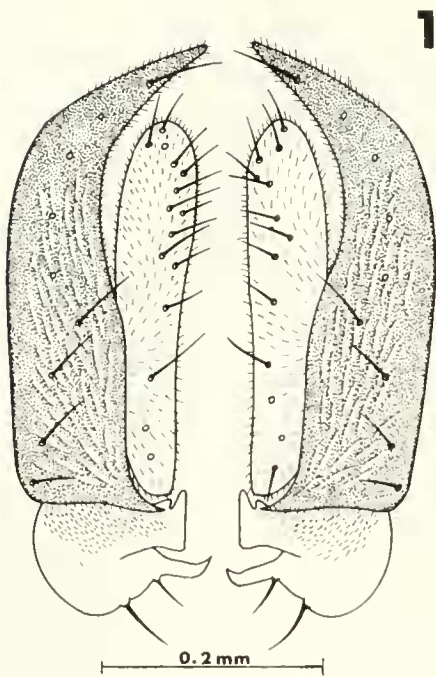


Fig. 1. *Donaceus nigronotatus*. Male external genitalia.

- larger, 1.90–2.40 mm (widespread)
- *D. nigronotatus* Cresson
- Coxa and femur dark, black; scutellum without black, velvety patches on lateral angles; size smaller, 1.50–1.93 mm (Peninsular Malaysia)
- *D. azhari*, new species

***Donaceus nigronotatus* Cresson**

Fig. 1

Donaceus nigronotatus Cresson, 1943: 5.

Diagnosis.—A small shore fly, length 2.0–2.40 mm.

Description.—*Head*: Microtomentose, subshiny, golden, rarely becoming somewhat dusky; genal area concolorous with face. Second antennal segment pale, golden, contrasting with third segment which is velvety gray to brown. Frons slightly contrasting with face, darker, concolorous in both ground color and microtomentosity with scutum. Mouthparts, including palpi, concolorous with face. Eye height/eye width ratio 1:0.83–1:0.88; eye height/genal height ratio 1:0.30–1:0.34.

Thorax.—Thoracic chaetotaxy well developed. Scutum with 3 pair of dorsocentral setae (1+2), and 3 pair of strong acrostichal setae; microtomentose, dark golden brown, ground color black, with rather diffuse markings at bases of setae but lacking definite blotches and pattern. Scutellum concolorous with scutum, in posterior view, lateral angles with black, velvety patches. Pleural areas golden, contrasting with dark coloration of the scutum, concolorous with face. Legs concolorous with pleural areas, golden. Wing with clear, rounded spots in a fuscous field. Halter yellow.

Abdomen.—Microtomentose, gray with a slight tinge of green, ground color black. Male genitalia as in Fig. 1.

Type material.—The holotype (Academy of Natural Sciences of Philadelphia, type number 6650) was examined. The specimen is a female, minuten mounted and, with the exception of the missing head, is in good condition. It is labeled Takai 1907.V.3/FORMOSA Sauter/845/Type 6650 *Donaceus nigronotatus* Cress. A male paratype

being the presence of 3 dorsocentral bristles (1+2) as opposed to 2 (1+1) in the latter genera. In addition, vein R_{2+3} joins the costa at a point between those found in *Ilythea* and *Zeros*. Facial similarities also seem to suggest a close relationship with *Zeros*. The distribution of *Donaceus* also implies a close relationship with *Zeros* as both are found throughout the Oriental Region, *Donaceus* being limited to this area, while *Ilythea* has an Oriental presence only in Japan.

It is possible that upon closer examination *Donaceus* may not prove to merit a generic ranking and will be considered a subgenus or other grouping within *Ilythea*. However, the question will only be resolved once the tribe is studied on a world basis. Thus, for the present, we have chosen to keep *Donaceus* as a valid genus.

KEY TO SPECIES OF
DONACEUS

- 1. Coxa and femur pale, golden; scutellum with black, velvety patches on lateral angles; size

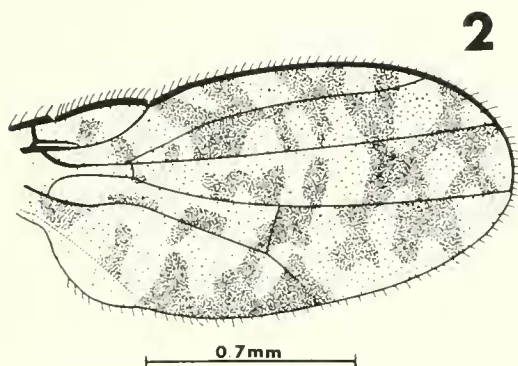


Fig. 2. *Donaceus azhari*. Wing.

and a female could not be located in the ANSP Collection.

Distribution.—Cresson (1943) described the species from three specimens taken in Formosa (Taiwan, The Republic of China). Since then the species has been recorded from Japan (Miyagi 1977), Hawaii (Hardy and Delfinado 1980), Thailand, Australia, and New Zealand (Cogan and Wirth 1977).

Specimens examined.—The holotype from Formosa and 12 specimens from Oahu, Maui, and Kauai, Hawaii.

Remarks.—Both Miyagi (1977) and Hardy and Delfinado (1980) presented descriptions and figured the genitalia. In Hawaii, Miyagi (1977) found the species to range from sea level to 4000 ft. in elevation and to occur in a variety of aquatic habitats including the margins of ponds, swamps, reservoirs, and streams.

Donaceus azhari Zack and Sites,

NEW SPECIES

Figs. 2-3

Diagnosis.—A small shore fly, length 1.50 to 1.93 mm. It is distinguished from its sole congener *D. nigronotatus* Cresson by the smaller size, overall darker appearance of the thoracic pleura and legs, the lack of lateral velvet patches on the scutellum and the distinctive male terminalia.

Description.—*Head*: Head microtomentose, produced forward. Face light golden brown, in profile straight to facial promi-

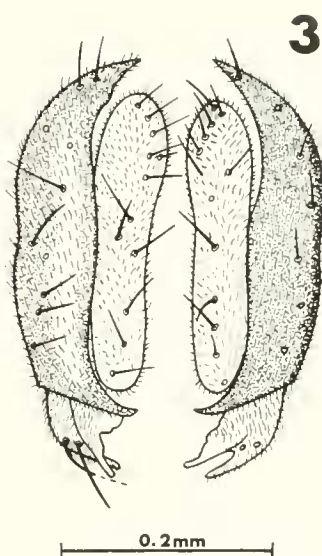


Fig. 3. *Donaceus azhari*. Male external genitalia.

nence and then with only a slight tuberculose development, face receding to antennal bases; with 3 large, equally spaced, facial setae, uppermost dorsally inclined and at a level just below facial prominence, bottom 2 mesoventrally inclined, all 3 follow contour of eye in arrangement; 3-4 small, dorsally inclined setae lateral to larger facials. Genal area concolorous with face; genal bristle subequal to larger facials; situated forward, near eye margin; 3-4 small, dark setae situated along posterior genal margin. Antenna with second segment ochraceous to dark golden brown, upper angle with 2 larger setae; flagellum dark, golden brown with numerous fine hairs; arista dark, plumose, 6-7 aristal hairs which are $\frac{1}{2}$ - $\frac{3}{4}$ length of main trunk. Frons concolorous with face; proclinate and reclinate orbital setae well developed, with a second, small proclinate orbital seta situated equidistant between the larger setae; inner and outer vertical setae well developed, subequal to facials; ocellar setae larger, subequal to facials, situated between the posterior ocelli; 2 pair of small, postocellar setae; 6-8 dark, small postocular setae. Mouthparts, including palpi, microtomentose, concolorous with face. Eyes mi-

cropubescent. Eye height/eye width ratio 1:0.83–1:0.86; eye height/genal height ratio 1:0.30–1:0.33.

Thorax.—Thoracic chaetotaxy well developed. Ground color black; microtomentose, dark golden brown, often with a slight greenish to copper tinge. Scutum with 3 pair of well developed dorsocentral setae, 1+2; 5–6 pair of strong acrostichal setae, irregularly placed in 2 rows, prescutellars strong; intra-alar setae strong, posterior pair especially so, subequal to dorsocentrals; numerous, irregularly-placed setae in the intra-alar and supra-alar areas. Scutum somewhat patterned, blotched with dark brown to black at base of each seta, often with dark brown stripes between the dorsocentral and acrostichal rows of setae. Scutellum concolorous with scutum; large lateral and apical scutellar setae, a pair of small, hair-like subapical scutellar setae; in posterior view, apical, and to some extent lateral margins ochraceous, without black, velvety areas. Pleural areas microtomentose, concolorous with scutum; notopleuron with posterior notopleural seta approximately 2× diameter of anterior seta and 4× as far from notopleural suture; anepisternum with 1 large and 1–2 smaller setae, with numerous hairs throughout; katepisternum with a large, central seta and 3–4 smaller, hair-like setae. Coxa concolorous with pleural areas; femur dark, becoming paler, ochraceous distally (at knee), profemur with a series of strong, ventral setae which become longer and thicker distally; tibia lighter, variegated, mesotibia with a large, dark, apical tibial spine; tarsi ochraceous. Wing distinctive (Fig. 2) with clear rounded spots in a fuscous field. Halter yellow.

Abdomen: Microtomentose, gray with a slight greenish tinge, ground color black; a row of small, dark setae along the posterior margin of each tergite, other setae positioned in rows, more common in lateral areas. Male with ochraceous spot on dorsal tip of abdomen; male genitalia as in Fig. 3.

Type material.—Holotype ♂, allotype ♀,

and 5 paratypes (3 ♀♀, 2 ♂♂) labeled-Malaysia: Perak; MARDI-Hilir Perak, 16 mi W Telok Anson. 25 November 1986. R. S. Zack collector. All specimens are paper-point mounted. The holotype and allotype are deposited in the James Entomological Collection at Washington State University. A male and female paratype are deposited in the National Museum of Natural History (USNM). The remaining paratypes are in the senior author's collection.

Distribution.—Known only from the type locality.

Etymology.—The species is named in honor of our friend and colleague, Azhar Ismail, an entomologist with the Cocoa and Coconut Research Division of the Malaysia Agriculture and Development Institute (MARDI). Mr. Azhar served as the senior author's host during his trip to Malaysia.

Remarks.—*Donaceus azhari* is easily separated from its sole congener *D. nigronotatus* by its smaller size (1.50–1.93 mm as opposed to 2.0–2.40 mm), the much darker microtomentosity of the thorax, the darker legs, and the lack of velvety black lateral margins on the scutellum.

The type series of *D. azhari* was collected on the grounds of the Malaysian Agriculture and Development Institute (MARDI), Hilir Perak Station. The flies were taken along the moist soil banks of a small, approximately 2 m wide, rain-fed drainage ditch. The ditch is very susceptible to flooding. Numerous other shore flies were also collected at this site.

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NOTE

A Sesiid Host Record for *Pterocormus chasmodops* (Hymenoptera: Ichneumonidae)

The ichneumonid, *Pterocormus chasmodops* (Heinrich), has not previously been associated with any host. During the summer of 1986, pupae of the raspberry crown borer, *Pennisetia marginata* (Harris) (Lepidoptera: Sesiidae), were collected in Wayne County, Ohio, from the crowns of cultivated *Rubus* spp. as part of biological control research dealing with this bramble pest. From 30 field collected pupae, 22 *P. marginata* adults emerged, 3 died from a disease, and 5 ichneumonids emerged from the remaining five pupae, 1 per pupa. These specimens were subsequently identified as *Pterocormus chasmodops* (Heinrich) (Hymenoptera: Ichneumonidae). The published host range of *Pterocormus chasmodops* is Quebec, Maine, New Hampshire,

New York, Ontario, Michigan, Minnesota and Manitoba (Krombein et al. 1979. *Catalog of Hymenoptera in America North of Mexico*, Vol. 1. pg. 521). This is the first record of this species from Ohio. *Bracon bembeciae* (Walley) (Hymenoptera: Braconidae) is the only other species which has been reared from *Pennisetia marginata*.

We thank Dr. Robert W. Carlson of the Systematic Entomology Laboratory, the Biosystematics and Beneficial Insects Institute, USDA, Beltsville, Maryland, for identifying *Pterocormus chasmodops*.

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